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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,696	03/28/2005	Jacques Brochu	06670/0202695-US0	2024

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EXAMINER

AMRANY, ADI

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 12/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/529,696

Applicant(s)

BROCHU ET AL.

Examiner

Adi Amrany

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 9-13 is/are rejected.
- 7) ☒ Claim(s) 4-6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date 11/3/06; 11/14/06.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Prosecution on the merits of this application is reopened on claims 1-6 and 9-13, considered unpatentable for the reasons indicated below:

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kalinin & Soldatov, "The Application of Phase-Shifting Transformers to the Power Line Ice Melting" ("Kalinin"), from applicants' Information Disclosure Statement, filed November 14, 2006.

With respect to claims 1 and 11, Kalinin discloses the method of de-icing energized electric lines of an alternating current voltage distribution or transmission network (abstract) comprising the steps of:

providing an apparatus capable of producing an adjustable angular offset between voltages at its terminals (column 2 on page A6-1-(1), first paragraph);

selecting segments of the energized electrical lines to be de-iced (column 2, second paragraph, "load redistribution among *circuit branches*"; column 5, first paragraph after heading #3);

connecting segments to form a loop by selectively operating circuit breakers of the network (figure 3; column 6, first paragraph below the figure);

connecting the apparatus in series with the segments of the loop to be de-iced (figure 3);

activating the apparatus (column 2, second paragraph, "the circulating current is superimposed on the operation current"); and

adjusting the angular offset of the apparatus to impose an increase in current flowing in at least one of the segments of the loop, thus causing the de-icing of said at least one segments of the loop (column 2, second paragraph; column 3, paragraph that begins, "the programs of computations...").

Kalinin discloses that the angular offset is only adjusted based on the electrical network conditions. Since the angular offset may be maintained at one level, Kalinin anticipates the limitations of claim 11, which recites an apparatus producing a *fixed* angular offset.

With respect to claim 2, Kalinin discloses the apparatus comprises a phase shift transformer provided with a tap changer for adjusting the angular offset (figure 2; column 4, paragraphs following heading #2).

With respect to claim 11, Kalinin discloses the apparatus is connected with the segments of the loop by an interrupting element (figure 3; column 6).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kalinin in view of Pelletier (US 5,907,239).

Kalinin discloses the method of de-icing according to claim 2, but does not expressly disclose a capacitor in parallel with the phase shifting transformer.

Pelletier discloses a power control apparatus utilizing a phase shifting transformer in parallel with a capacitor (figures 8B and 14; column 11, lines 16-41; column 12, lines 14-30).

Kalinin and Pelletier are analogous because they are from the same field of endeavor, namely methods of using an adjustable angular offset to control circulating current along a distribution or transmission network. At the time of the invention by applicants, it would have been obvious to add a capacitor in parallel to the phase shifting transformer in order to reduce losses in the phase shifting transformer.

6. Claims 9 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kalinin.

With respect to claim 9, Kalinin discloses that the apparatus is mobile, since it can be placed in different locations (column 5, paragraph below heading #3), and the distribution lines are connectable to a sectioning point by means of an interruptor (figure

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3). Kalinin discloses that the interruptor may be operated into an open or closed position depending on the specific segments to be de-iced.

With respect to claims 12-13, Kalinin discloses the method of de-icing according to claim 11, and further, it would have been obvious to one skilled in the art to configure the interrupting device shown in figure 3 as an interruptor or a circuit breaker, as these elements are art recognized equivalents.

Allowable Subject Matter

7. Claims 4-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Kalinin does not disclose operating the apparatus according to the method steps of claims 4-6, including, adjusting the internal angle of the apparatus before operating the line circuit breakers to connect the apparatus to the segments of the loop to be de-iced.

Conclusion

8. Applicant is advised that the Notice of Allowance mailed is vacated. If the issue fee has already been paid, applicant may request a refund or request that the fee be credited to a deposit account. However, applicant may wait until the application is either found allowable or held abandoned. If allowed, upon receipt of a new Notice of

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Allowance, applicant may request that the previously submitted issue fee be applied. If abandoned, applicant may request refund or credit to a specified Deposit Account.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adi Amrany whose telephone number is (571) 272-0415. The examiner can normally be reached on weekdays, from 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AA

Stephen W. Jackson
12-5-06

STEPHEN W. JACKSON
PRIMARY EXAMINER